REMARKS

Claims 1-65 were previously pending in this application, of which claims 1-41 and 60-65 are withdrawn from consideration. Claims 42, 47, 50 and 57 have been amended. Claims 43-46 and 53-56 are cancelled. As a result claims 42, 47-52, 57-58 are pending and under examination with claims 42, 50 and 57 being independent claims. No new matter has been added.

Rejection under 35 U.S.C. §112

Claims 50-56 were rejected under 35 U.S.C. § 112, first paragraph, for failing to comply with the enablement requirement. Claims 53-56 have been cancelled, rendering this rejection moot as to those claims. As to claims 50-52, this rejection is respectfully traversed.

The Examiner has identified in the written description the recitation of sufficient details for one skilled in the art to practice the invention without undue experimentation. The skilled artisan clearly would know such common engine and machine components as springs, flywheels, linkages and the like, and their usage. In particular, the use of springs or flywheels and linkages to return an engine part from a final position back to an initial position is well known to skilled artisans. For example, in conventional, four-stroke, internal combustion engines, a flywheel stores some of the energy from each power stroke of a piston through exhaust, intake and compression strokes. Before internal combustion engines, steam engines presented similar problems and were fitted with similar solutions. All this is well known to the skilled artisan who will employ these same techniques in solution of these same problems. Because the written description conveys to the skilled artisan sufficient information to practice the invention without undue experimentation, the application meets the requirements of Section 112, first paragraph, as to claims 50-52.

Accordingly, withdrawal of this rejection is respectfully requested.

Claims 57-59 have been rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Claim 57 has been amended to overcome this rejection.

The phrase "the pressure chamber" has been replaced with "the solute chamber," which has the required antecedent basis earlier in the claim. Claim 57 is now therefore fully compliant with Section 112, second paragraph. Claims 58 and 59 are dependent claims rejected solely for their dependency on claim 57, and so now also comply with Section 112, second paragraph.

Accordingly, withdrawal of the rejection of claims 57-59 under 35 U.S.C. §112, second paragraph, is respectfully requested.

Rejections Under 35 U.S.C. §102

Claims 42, 43 and 50-55 have been rejected under 35 U.S.C. §102(b) as being anticipated by German Patent No. DE 31 21 968 to Grönecke (hereinafter *Grönecke*). Claims 43 and 53-55 have been cancelled, rendering this rejection moot as to those claims. Claims 42 and 50 have been amended, overcoming this rejection as to claims 42 and 50-52.

Claims 42 and 50 have been amended to now recite:

> *periodically applying and removing the increased pressure to a hydraulically driven piston* which produces a substantial linear movement from which energy can be extracted.
>
> exhausting solute solution from the pressure chamber; and
>
> recycling solute solution after exhausting the solute solution from the pressure chamber by separating solute molecules from solvent molecules in the solute solution by applying the vacuum in the solvent chamber to the solute solution while vaporizing the solvent. [emphasis added]

The pressure built up in the solute chamber is applied in an intermittent fashion, so as to actuate a hydraulically driven piston, rather than in a constant manner, as is done in turbine-based systems. That is, the pressure is "periodically" applied and removed from the "hydraulically driven piston," as opposed to constantly applied, for example, to a turbine.

In contrast, *Grönecke* discloses a system including a turbine driven by a steady, low-volume, high-velocity stream produced by building up pressure in a solute chamber. Fig. 1 is illustrative, showing a solvent chamber 5, membrane 4 and solute chamber 6, which create the pressure to drive turbine 13 by the low-volume, high-velocity stream.

The claims combine the piston apparatus discussed above with a recycling system that uses a vacuum naturally produced in the system to reduce or eliminate any external energy requirement for performing recycling of the solvent and solute solution working fluids. The vacuum is formed in the solvent chamber as solvent is depleted, and is applied to the spent solute solution to lower the vaporization energy required to separate solvent from solute solution.

Grönecke does not disclose all the elements of either claim 42 or claim 50 because *Grönecke* does not show:

> periodically applying and removing the increased pressure to a hydraulically driven piston which produces a substantial linear movement from which energy can be extracted.
>
> exhausting solute solution from the pressure chamber; and
>
> recycling solute solution after exhausting the solute solution from the pressure chamber by separating solute molecules from solvent molecules in the solute solution by applying the vacuum in the solvent chamber to the solute solution while vaporizing the solvent.

Claims 51 and 52 depend from claim 50, and so the elements thereof are also not shown by *Grönecke*. Claims 42 and 50-52 therefore cannot be anticipated by *Grönecke*.

Accordingly, withdrawal of this rejection is respectfully requested.

Claims 57-59 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 3,906,250 to Loeb (hereinafter *Loeb*).

Loeb simply fails to show a closed solvent chamber in which a vacuum develops. *Loeb* shows a solvent chamber in which ambient pressure exists, but a negative pressure does not develop as the chamber is open to inflow from outside.

Accordingly, withdrawal of this rejection is respectfully requested.

Rejections Under 35 U.S.C. §103

Claim 56 has been rejected under 35 U.S.C. §103(a) as being unpatentable over *Grönecke* in view of *Loeb*. Claim 56 has been cancelled, rendering this rejection moot.

Claims 42-55 have been rejected under 35 U.S.C. §103(a) as being unpatentable over *Loeb* in view of *Grönecke*. Claims 43-46 and 53-55 have been cancelled, rendering this rejection moot as to those claims. As to claims 42 and 47-52, claims 42 and 50 have been amended, overcoming this rejection.

As discussed above, Claims 42 and 50 have been amended to now recite:

> *periodically applying and removing the increased pressure to a hydraulically driven piston* which produces a substantial linear movement from which energy can be extracted.

exhausting solute solution from the pressure chamber; and

recycling solute solution after exhausting the solute solution from the pressure chamber by separating solute molecules from solvent molecules in the solute solution by applying the vacuum in the solvent chamber to the solute solution while vaporizing the solvent. [emphasis added]

The pressure built up in the solute chamber is applied in an intermittent fashion, so as to actuate a hydraulically driven piston, rather than in a constant manner, as is done in turbine-based systems. That is, the pressure is "periodically" applied and removed from the "hydraulically driven piston," as opposed to constantly applied, for example, to a turbine.

In contrast, *Grönecke* discloses a system including a turbine driven by a steady, low-volume, high-velocity stream produced by building up pressure in a solute chamber. Fig. 1 is illustrative, showing a solvent chamber 5, membrane 4 and solute chamber 6, which create the pressure to drive turbine 13 by the low-volume, high-velocity stream.

Loeb teaches systems similar to *Grönecke*, further including recycling of the fresh water and brine used as solvent and solute solution. Neither reference discloses, teaches or suggests using the pressure generating apparatus to also produce a vacuum that is then used in the recycling of the solvent and solute solution, as claimed.

The claim combines the piston apparatus discussed above with a recycling system that uses a vacuum naturally produced in the system to reduce or eliminate any external energy requirement for performing recycling of the solvent and solute solution working fluids. The vacuum is formed in the solvent chamber as solvent is depleted, and is applied to the spent solute solution to lower the vaporization energy required to separate solvent from solute solution.

The combination of *Grönecke* and *Loeb* fails to render the claims obvious because it does not disclose teach or suggest the combination of all the elements of either claim 42 or claim 50, including:

periodically applying and removing the increased pressure to a hydraulically driven piston which produces a substantial linear movement from which energy can be extracted.

exhausting solute solution from the pressure chamber; and

recycling solute solution after exhausting the solute solution from the pressure chamber by separating solute molecules from solvent molecules in the solute solution by

applying the vacuum in the solvent chamber to the solute solution while vaporizing the solvent.

Claims 51 and 52 depend from claim 50, and so also cannot be obvious in view of the proposed combination. Claims 42 and 50-52 are therefore patentable over the combination of *Grönecke* in view of *Loeb*.

Accordingly, withdrawal of this rejection is respectfully requested.

CONCLUSION

In view of the foregoing amendments and remarks, reconsideration is respectfully requested. This application should now be in condition for allowance; a notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicant's attorney at the telephone number listed below.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee that is not covered by an accompanying payment, please charge any deficiency to Deposit Account No. 50/2762, Ref. E2002-700019.

Respectfully submitted,
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